

1 **COLOR NAMING, COLOR CATEGORIZATION AND DESCRIBING COLOR**
2 **COMPOSITION OF IMAGES**

3 **ABSTRACT**

4 The invention provides methods, systems and apparatus for assigning color names to
5 individual image pixels, and generating verbal description of color composition in
6 images, suitable for a wide variety of information processing applications. For an isolated
7 image pixel (individual color sample or color value) an illustrative embodiment of this
8 invention uses a predetermined vocabulary of color names, and then generates a distance
9 measure describing the best color match and corresponding color name for the given
10 pixel. For the input image, an illustrative embodiment of this invention computes the
11 simplified representation of the scene, consistent with human perception, and uses the
12 predetermined vocabulary, syntax rules and metric to assign color names to all
13 perceptually significant objects and regions and obtain the verbal description of the
14 overall color composition. The invention is also applicable to other types of information
15 signals, such as sequences of video frames, web pages, etc.